
E907

Multiplicity Trigger

Drift Chamber Electronics Upgrades



DC Multiplicity Overview



- Form a multiplicity trigger using the $\pm 21.60^\circ$ planes of DC1
- Use 8-way OR built into the e690 discriminator cards with pull down upgrade card (UVA) to form 4 trigger signals per discriminator
- Use Lecroy 4532 majority logic units to combine the discriminator signals

Multiplicity Trigger



- Lecroy 4532 are daisy-chained to form a single multiplicity signal per plane
- Multiplicity threshold are remotely programmable via a 4415 discriminator
- Can provide a single trigger per chamber or per plane.
- Offers flexibility to upgrade to trigger roads

DC Upgrade Requirements



- E690 discriminators require a pull down circuit on each card included in the trigger

	# Per Plane	Total	Cost
Pull down circuits	16	32	Circuit board etching (1x64) Stuffed in house
Disc sockets	16	32	In house
Cables	4	8	In house
Lecroy 4532 Majority Logic Units	2	4	FNAL Prep
Lecroy 4415 CAMAC disc	1	2	FNAL Prep

Time Scale



Board Design	Done
Circuit board etching	1-2 weeks
Stuffing of boards	16 hrs
Card connector modifications	8 hrs
Setup	24 hrs